

Applicants: Dean Engelhardt et al.
Serial No.: 08/486,066
Filed: June 7, 1995
Page 2 (Amendment - December 26, 1996)

Please amend the subject application as follows:

In the Title:

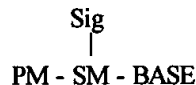
Delete the present title and add the following as the title: -- A SUGAR MOIETY

I' LABELED NUCLEOTIDE AND COMPOSITIONS COMPRISING SAME --.

In the Claims:

Please add the following new claims.

-- 308 (New) A composition comprising a polymeric compound attached directly or indirectly to at least one nucleotide having the formula:



I² wherein PM is a phosphate moiety, SM is a ribose or a deoxyribose sugar moiety, and BASE is a pyrimidine, purine or 7-deazapurine moiety, said PM being attached to SM at the 2', 3', or 5' position of SM when said nucleotide is a ribonucleotide, and at the 3' or 5' position when said nucleotide is a deoxyribonucleotide, said BASE being attached to the 1' position of SM from the N¹ position when BASE is a pyrimidine or the N⁹ position when BASE is a purine or 7-deazapurine, and said Sig is a detectable moiety covalently attached to SM directly or through a linkage group. --

Sub 5 -- 309. (New) The composition according to claim 308, wherein the Sig is attached to the C2' or the C3' position of SM. --

-- 310. (New) The composition according to claim 308, wherein the nucleotide comprising a deoxyribonucleotide. --

-- 311. (New) The composition according to claim 308, wherein the nucleotide comprising a ribonucleotide. --

-- 312. (New) The composition according to claim 308, wherein Sig comprise a moiety containing at least 3 carbon atoms. --

-- 313. (New) The composition according to claim 308, wherein Sig is selected from the group consisting of monosaccharides, oligosaccharides and polysaccharides. --

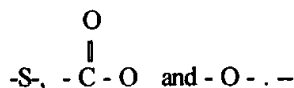
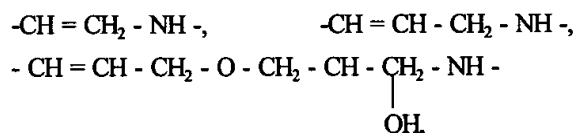
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or associated with an oligo- or polynucleotide. -

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- 337. (New) The composition according to claim 309 wherein said Sig comprises a moiety which is detectable when said ribonucleotide is incorporated with, contained in or associated with an oligo- or polynucleotide. -

- 338. (New) The composition according to claim 308 wherein Sig is covalently attached to SM through a linkage group which comprises or includes an olefinic bond at the α -position relative to P, or any of the moieties:



REMARKS

Reconsideration of this application is respectfully requested. Claims 238-297 and 299-307 were pending in the subject application. Applicants have added new claims 308-338 hereinabove. Accordingly, claims 238-297 and 299-338 are now under consideration.

In the June 25, 1996 Office Action, the Examiner objected to the title of the application alleging that it is not descriptive of the elected invention. Applicants have herein deleted the previous title and have substituted the following: "A SUGAR MOIETY LABELED NUCLEOTIDE AND COMPOSITIONS COMPRISING SAME."

In the Office Action, the Examiner also rejected claims 238, 240-272, 274-297, and 299-307 under 35 U.S.C. § 112, first paragraph, as unpatentable alleging that the disclosure is enabling only for claims limited to "covalent" attachment of the Sig moiety to the sugar (SM) via the vicinal hydroxyls at the 2' or 3' position. The Examiner argues that the only disclosed chemistry for Sig attachment to the SM moiety is via the formation of dialdehydes that are then coupled to biotin hydrazide. The Examiner maintained that another possible SM attachment of a Sig moiety at the 2', 3' or 5' hydroxyls of SM is via phosphorylation, but that this attachment is via a phosphate and is thus a PM type attachment and not an SM attachment. The Examiner maintained that any other chemistry for SM labeling with Sig is